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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,200	03/31/2004	Frederick J. AmRhein	ASMEX.366A	2193

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KNOBBE, MARTENS, OLSEN & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

LUND, JEFFRIE ROBERT

ART UNIT	PAPER NUMBER
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1792

MAIL DATE	DELIVERY MODE
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10/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/817,200

Applicant(s)

AMRHEIN ET AL.

Examiner

Jeffrie R. Lund

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1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 48-59, 64, 66, 67, 69, 70, 72 and 73 is/are pending in the application.
- 4a) Of the above claim(s) 64, 66, 67, 69, 70, 72 and 73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 48-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 48-59, in the reply filed on August 13, 2007 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 48-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al, US Patent Application Publication 2002/0011210 A1, in view of Ogawa et al, US Patent Application Publication 2007/0062646 A1.

Satoh et al et al teaches a process chamber 112 that includes: a substrate holder 120; a first inlet 140 leading directly into the process chamber positioned on one side of

the substrate holder; an outlet 142 positioned at an opposite side of the substrate holder from the first inlet, and defines a laminar flow path between the first inlet 140 and outlet 142; a second inlet 16 leading directly into the processing chamber positioned to open into the laminar flow path between the first inlet and the substrate holder; a remote plasma generator 13; and a channeling duct 14 configured to channel the plasma generator product to the inlet. (Figure 5)

Satoh et al differs from the present invention in that Satoh et al does not teach: a plate (inlet insert) having at least one shaped opening and blocking portion located in the second inlet to disrupt the reactive flow flowing through the second inlet in order to produce a uniform or non-uniform flow geometry; the second inlet having a throat and a mouth, the mouth having a larger circumference than the throat; the location of the inlet insert; or the shape of the second inlet.

Ogawa et al teaches a processing apparatus that includes a remote plasma source 55 connected to a processing chamber 41 via an inlet having a throat where the reactive flow enters the inlet and a mouth with a larger circumference where the reactive flow exits the inlet, and a plate 57 having holes and obstructions that uniformly distribute the reactive flow. (Figures 6-7C)

The flow geometry is dependent on the process and processing chamber. Uniform flow geometry is used for forming uniform layers on the substrate. Non-uniform flow geometry is used to compensate for reaction gas depletion and non-uniform thermal or gas flow conditions. The location of the inlet insert plate with respect to the mouth of the inlet, the shape and arrangement of the opening and blocking portions,

and the shape of the showerhead are all factors in the flow geometry and are used to optimize the flow geometry.

The motivation for adding the throat and mouth of Ogawa et al to the apparatus of Satoh et al, and optimizing the opening and blocking portions, location of the plate, and shape of the inlet is to optimize the flow geometry of the inlet and inlet insert to create the desired flow geometry.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the throat and mouth of Ogawa et al and optimize the size and shape of the opening and blocking portions, the location of the plate, and the shape of the showerhead to form the desired flow geometry.

Response to Arguments

5. Applicant's arguments with respect to claims 48-59 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (10:00 am - 9:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

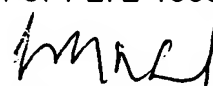
Information regarding the status of an application may be obtained from the

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Jeffrie R. Lund
Primary Examiner
Art Unit 1792

JRL
10/23/07